

Safe, Efficient Markets





17th July, 2014

Ms. Norah Barger and Mr. Karl Cordewener, Co-Chairs, Trading Book Group Basel Committee on Banking Supervision Bank for International Settlements Centralbahnplatz 2, CH-4002 Basel, SWITZERLAND

Sent by email to: norah.barger@frb.gov; karl.cordewener@bis.org; Juquan.Tan@bis.org; baselcommittee@bis.org

Re: Second Consultative Document Fundamental Review of the Trading Book¹ (CP2) – BCBS 265 – **Quantitative Impact Study instructions - Response**

Dear Ms. Barger and Mr. Cordewener,

The Associations² welcome the opportunity to provide feedback on the instructions for the quantitative impact study ("QIS"), launched by the Basel Committee on Banking Supervision ("BCBS") on the Fundamental Review of the Trading Book ("FRTB") received on 23rd June 2014. Please consider this letter as the formal response to the QIS instructions, following the preliminary feedback provided in our letter dated 8th July 2014.

It is important to re-iterate that our members stand supportive of the FRTB initiative and its development process involving iterative QISs. To this end, they have actively engaged resources and mapped out the capabilities of their internal risk infrastructures in order to provide meaningful inputs into the current QIS for the calibration of the final framework. Moreover, the changes made to simplify the implementation of differing liquidity horizons have been almost universally welcomed, while abandoning the complex cash flow approach for the standard rules methodology has been widely praised.

However, despite members' best intention to participate in the OIS at hand, they wish to emphasize the difficulty in carrying out its full scope in the short timeframe prescribed for this stage. In particular:

1. There remain several areas where industry requests for clarification have yet to be addressed, including the Trading Book/Banking Book Boundary, P&L Attribution and Non-Modellable Risk Factors. Moving ahead without clarity and precision in the instructions is bound to lead to banks making significant assumptions;

¹ Basel Committee on Banking Supervision, October 2013

² The International Swaps and Derivatives Association, Inc. ("ISDA"), the Global Financial Markets Association ("GFMA") and the Institute of International Finance ("IIF")



2. Some elements of the QIS would require infrastructure development and testing that is not feasible within the prescribed timeline without institutions using simplifications and shortcuts.

These approximations will impact the numbers that banks report, potentially shifting the mean and almost certainly exaggerating the variance across banks.

Overall industry sentiment is that the QIS is trying to achieve too much in too short period of time and is trying to deliver in one iteration what should be broken down in multiple phases, applying methodologies for which the industry has not yet built sufficient infrastructure. This practice is unlikely to serve the TBG's objectives as the firm level outcomes would be expected to be insufficiently coherent and, thus, difficult to interpret.

The Associations fully appreciate the BCBS Trading Book Group's ("TBG") ultimate aim of assessing the impact of FRTB in real portfolios, however we strongly believe that the study needs to be scoped down and re-structured into smaller separate phases (or exercises). This is to avoid contaminating the results with erroneous data with a high degree of variance between the assumptions made by firms as well as due to thinly stretched resources of the participating banks. This position is being exacerbated by the timing of the current QIS exercise, in which banks are faced with competing mandatory regulatory initiatives that involve the same resources as the current FRTB QIS.

Accordingly, we propose a phased approach which industry strongly believes will lead to:

- improved accuracy and reduced variability in the results;
- higher participation rate amongst banks;
- greater transparency in the results and the impact of specific changes; and
- overall, achieving the objectives sooner

The phased approach we propose is detailed in this paper and is based on our view of:

- i) the feasibility of carrying out the calculations within the prescribed timeframe;
- ii) the importance of a particular component calibration;
- iii) the extent that there are material issues / questions outstanding that need to be resolved.

This approach accommodates all components of the QIS requested by TBG while improving the usefulness and reliability of the outputs by allowing banks to apply a suitable degree of focus, development effort and internal review to the exercise.

We and the industry remain available to discuss the issues raised herein in more detail, together with any other FRTB topics deemed important by the TBG. In particular, the industry would consider a discussion on the timeline for the future phases proposed beneficial since there are strong interdependencies involved. In this context, the Associations stand ready to facilitate such a meeting at your earliest convenience.



As a final remark, it should be noted that the actual QIS exercise implementation will undoubtedly reveal some areas requiring further clarification or amendments due to additional issues being revealed by the exercise. We hope that the TBG and BCBS remain receptive to both additional comments from firms, as well as potential alterations of the instructions if necessary. However, these alterations may need to be accompanied with revised timetables to allow firms sufficient time to make system changes to accommodate.

Yours faithfully,

Mark Gheerbrant Head of Risk and Capital ISDA David Strongin Executive Director GFMA

Andres Portilla Director, Regulatory Affairs IIF

c.c. Ju Quan Tan, Member of Secretariat, Basel Committee



SECTION I: FEASIBILITY OF THE QIS

The purpose of this section is to identify the specific sub-sections of the QIS that would require disproportionate amount of resources and time when compared to the overall contribution to the framework calibration. Industry would strongly recommend that items not directly linked to the FRTB calibration, for which the TBG requires quantitative feedback, are undertaken at a later stage, as per the phasing proposal presented in following sections.

I. Reporting date of the QIS

Banks expect the final QIS instructions to be sent end-of July and, consequently, it will be extremely difficult for a number of firms to capture the information required with a reporting date a month earlier. Even more, banks whose national competent authority sent the QIS instructions only a few days prior to the end-of June are expected to encounter numerous hurdles in participating.

In principle, our members request that the as-of-date for a QIS always be set to a date after the final instructions are issued in order to allow time to organize the exercise internally so as to better control operational risks. In the case of the current QIS, members highlight the need for a lag of at least one month between the receipt of the final instructions and the Phase 1 reporting date and, despite adhering to a natural quarterly reporting cycle (driven also by regulatory submissions, e.g COREP), would recommend an end-of month date. Similar pre-requisites should also apply for future reporting dates, in case the phasing approach proposal is adopted by the BCBS.

It should be noted that, given the frequent changes in a typical trading book, selecting a date different to the rest of the Basel III benchmarking data will not have a material impact on the usefulness of the results, as long as the chosen window is consistent across all QIS participants.

II. Trading Book ("TB")/Banking Book ("BB") Boundary IMA and SBA calculations based on presumptive list of instruments

The QIS instructions require firms to calculate market risk capital requirements under two distinct assumptions for the revised TB/BB boundary, namely i) no deviation from the presumptive list as per the FRTB CP 2 and; ii) duly justified deviations granted by competent authorities. Industry would like to propose that the first scenario should be removed or postponed and the second scenario should be implemented with participating banks' current TB/BB boundary due to the following reasons:

- Providing results based on the presumptive list markedly increases the workload and provides very little benefit to the calibration of the model itself. Although the results can be used as a control mechanism for benchmarking the second scenario, the prescribed QIS expected timeline is prohibitive in re-defining the TB/BB boundary and, in any case, the benefit of doing so is expected to be limited given that most banks expect little divergence from their existing boundary.
- There are instances of conflict between the presumptive lists that have not been addressed yet by the TBG, e.g. "options" must be in TB vs "derivative instruments with the above [banking book]



instrument types as underlying assets" must be in BB (we refer to the industry response³ submitted in January of this year that highlighted a number of conflicts or areas of clarification required).

• The instructions remain unclear on how the TB/BB boundary is defined and making any assumptions that deviate from the current one will only increase the uncertainty of the QIS results.

We consider that reporting under the second scenario is both sufficient and sensible given that consistency is safeguarded in the revised boundary implementation. This can be achieved by setting up a Q&A process clarifying which deviations from the presumptive list the Committee considers acceptable.

III. Profit and Loss ("P&L") attribution & Back testing

P&L attribution and comparison with theoretical P&L is a process that is currently at different stages of development among trading desks and across banks and is not expected to be aligned with the QIS instructions within the given timeframe. While these analyses are useful for understanding the quality of the new metrics, we do not view them as necessary for the impact analysis and calibration of the FRTB.

Furthermore, under the new TB/BB classification, P&L backtesting over 44 days for the most important 100 desks is required, which may not be currently available as firms do not necessarily backtest at such granular levels. Regarding the design of the request, we observe that the number of days envisioned is too short for a valid statistical evaluation of the new metrics. Also, theoretical P&L is not currently the standard for backtesting and would, therefore, require infrastructure changes to the banks' risk systems that need significant investment of time and resources.

Banks' time and resources, we believe, should be allocated at this stage to other parts of the QIS that significantly contribute to the calibration of the FRTB framework. Consequently, we propose that this section is excluded from the scope of Phase 1 of the QIS.

IV. Jump in Liquidity premium ("JiLP")

The JiLP data request concerns an area that is still under development in the FRTB framework. While collecting data would be useful for defining the next steps in the independent model approval process, we propose that it is not directly related to the calibration of the model and therefore it could be performed at a later stage so that adequate resources are available today and the methodology is better refined.

To illustrate the great degree of ambiguity in this particular section, the JiLP worksheet requires counterparty credit risk potential future exposures, although the methodology to be used for calculating it remains unclear. More specifically, the BCBS has defined a new standardized approach for counterparty credit risk ("SA-CCR") and it is ambiguous which one to use in the calculations. In a similar fashion, it remains unclear which methodology should be applied for secured financing transactions ("SFTs") and how much netting should be recognized.

³ http://www2.isda.org/attachment/NjI0MQ==/Industry%20Letter%20to%20the%20TBG%20-

^{%20}BCBS%20265%20Alternative%20Industry%20Proposals%20-%2020%2001%2014.pdf, January 19th 2014



Based on the clarifications required of the BCBS, the amount of extra work these calculations imply (especially in the cases of divergence from banks' current practices e.g. implementation of SA-CCR, new repos netting rules), and the fact that this section is not directly related to the calibration of the framework we propose that this section should be excluded from the scope of Phase 1 of the QIS.

V. Non Modellable Risk Factors

As previously raised with the TBG in the recently submitted discussion paper⁴, the lack of clarity on the definition of non-modellable risk factors is significant and, at this time, banks do not possess the ability to calculate this charge at the trading desk level. Therefore, we propose that this section is excluded from the scope of Phase 1 of the QIS.

VI. Non-linear factors in the Standardized Approach

TBG has introduced non-linear factors in the standardized capital calculation approach, deviating materially from the methodology tested in the hypothetical portfolio exercise ("HPE") earlier this year. Although the banks welcome the introduction of risk sensitive attributes in the standardized approach, the efforts and resources required to develop and test the system capability are substantial and it will be very difficult to complete the data request within the proposed QIS timeframe. Calculation of non-linear risk factors for the purpose of the QIS will therefore, inevitably, increase the degree of estimation at a firm level - introducing further variability in the QIS results. Therefore, due to the need for further consultation on the matter and development efforts from the firms thereafter, we propose that this section is excluded from the scope of Phase 1 of the QIS.

VII. Incremental Default Risk ("IDR")

Given that the final methodology is not yet finalized at the BCBS level, banks have expressed concerns about including the IDR in the scope of the exercise (letter sent to the BCBS "Re: Industry Response to the Revised Standardized Approach for Market Risk", 16th April 2014). Although some firms do have IDR models and could potentially provide preliminary results under strong assumptions, the regulatory requested correlation structure and equity risk factors have not yet been clarified and, as a result, the exercise will have to be rerun once they are defined. Consequently, we would recommend that the IDR section is excluded from the scope of Phase 1 of the QIS.

⁴ http://www2.isda.org/attachment/NjU1NA==/BCBS_FRTB_Non%20modellable%20risk%20factors_Final.pdf



SECTION II: PHASING PROPOSAL

At this stage the clarification and simplification made by BCBS via the "Instructions for Basel III monitoring" document especially on "ES liquidity horizon" are welcomed and the upside and the value in running some of the exercises in the proposed full QIS is recognized. Nonetheless we believe that further improvements and clarification are necessary, given that several of the new instructions can be interpreted by banks in a subjective way, leading to highly dispersed results that are difficult to interpret. To achieve a more stable and effective result, it is recommended that the scope of the QIS be reduced and divided in different phases.

Phase 1: Conduct the analysis whose instructions are clear and feasible within the expected short QIS timeline:

- i. Worksheet II) TB SBA Current boundaries: excluding non-linear components.
- ii. Worksheet IV) TB IMA General, Panel b Future risk (CP2 Annex1) with current boundaries. This group level study will give a good idea around the impact of new risk measure proposed by CP2.
- iii. Worksheet VI) TB IMA risk measure Panel a. ES liquidity adjusted this worksheet, which is populated at a group level, will provide good insight on what will be the impact of the new rules when considering risk factors with different liquidity horizon. The request to populate for the first 100 desk is operationally burdensome and would be advisable to postpone this element at a second stage or rescale the request.

Subsequent Phases: Conduct further analyses that require either significant development efforts or clarifications from BCBS on parameters and methodologies, which may need to be structured into multiple phases:

- i. Worksheet II) TB SBA: including non-linear components.
- ii. TB/BB boundary: Running the test on revised boundaries for Internal Model and Standardized approach on a full QIS would be operationally challenging for the banks and above all would introduce in the test results a high level of variability, given the uncertainty around the "presumptive list" interpretation.

In addition, the computation of the incremental capital requirement derived from adding hypothetical test portfolios to the bank's actual TB or BB is of limited benefit to the QIS. The outcome of such test is expected to be strongly correlated to the original portfolio size and composition whilst the result may be unreliable due to operational errors from inserting a large amount of fictitious positions into banks' risk systems.

- iii. P&L attribution and back testing: Specifying, implementing and testing an IT system to generate P&L attribution and backtesting data across the whole TB is a major undertaking and cannot be completed in the timeframe given. Moreover, this component does not directly impact the level of capital resulting from the FRTB overall.
- iv. Jump in Liquidity Premium: Since this risk parameter is still under development and not directly related to FRTB calibration, we recommend that this analysis should be postponed to a second stage.
- v. Non-Modellable Risk Factor ("NMRF"): In order to provide a sensible answer to the QIS on the NMRF section, banks would need to receive feedback on how to align the risk not in VaR to the NMRF definition. Without further clarification banks will be forced to use expert judgment and



the derived result would be variable and difficult to interpret. To achieve a more effective result, this testing should be excluded from the current QIS and explored at a further stage once clarifications are received.

- vi. Non-linear risk factors curvature risk: At this stage the exercise should exclude the requested Curvature risk since these sensitivities are not produced for the normal course of business, and would require intense IT effort to be set up, which is not achievable in the allocated QIS timeframe.
- vii. IDR: The analysis as currently defined will not be sufficient to enable a proper calibration of the IDR and, ultimately, the exercise will have to be rerun once the correlation structure and equity risk inputs are defined.

Given the interdependencies and degrees of development required for the above-mentioned parameters for the subsequent phases, the industry would appreciate the opportunity to discuss phasing and timelines for these components with the TBG.



SECTION III: NEW POLICY ISSUES WITHIN THE QIS

Sensitivity Based Approach – Non linear factors

Though we recognize the importance of the QIS on the Sensitivity Based Approach ("SBA"), we would like to express our concern regarding performing a full-blown QIS given that the methodology is not fully defined or tested on a sample portfolio.

Implementing the SBA in such a short timeframe is expected to be extremely difficult. A significant example is the introduction of the curvature risk in SBA: all non-linear instruments are required to be revalued for each of the risk factors that are exposed to and therefore involves several calculations for a single instrument.

It will be computationally intensive and will require handling a large volume of data which are elements that require sufficient time for the firms to introduce the required infrastructure in support of the proposed calculations.

Liquidity Horizons

While we welcome the introduction of a Liquidity Adjustment based on 10-day ES, we are concerned by the requirement that this be based on full revaluation ("FV") and that liquidity horizons are allocated according to risk factor. In combination, these requirements mean that firms will have to perform five separate FV calculations for their portfolio, which is likely to be computationally difficult and prone to operational error. Moreover, if these FV calculations also have to be run on 3 different horizons (Current ES/Full Scope, Current ES/Reduced Scope, Stressed ES/Reduced Scope) and 6 risk factor types (Rates, FX, Credit, Commodity, Equity and All), the total number of FV runs quickly becomes unmanageable (see Appendix II for details).

We recommend that a pragmatic approach be adopted to setting liquidity horizons, by allowing firms to either:

- Allocate liquidity horizons by desk rather than by risk factor, where the allocation is based on the liquidity horizon of the primary risk drivers for a each desk. Since each desk, and hence each trade, would then be allocated to a unique liquidity horizon, only a single run of FV would be needed, which could then be scaled to the relevant horizon.
- Or, allow the option to compute ES using a sensitivity-based approach, instead of FV. Since ES under sensitivity-based approach can be decomposed by risk factor, then the issue of having to run multiple versions of 10-day ES does not arise.

Basis Risk

We understand that the TBG has simplified the accounting of basis risk by limiting the netting to 95% of the hedging position [§8a] for each risk factor. Though this method has the merit of simplicity, it is likely to significantly overstate the basis risk. In addition, the method can potentially lead to unstable 'jumpy' results for well-hedged portfolios.



Paragraph 8(a) contains the following text:

Find a net sensitivity across instruments to each risk factor k, which are defined in sections 3a and 3b for each asset class. First, positive sensitivities to that risk factor should be summed separately from negative sensitivities. The smaller in magnitude of these summed sensitivities should be multiplied by a 0.95 disallowance factor to capture basis risk. The resulting sensitivities should then be offset to determine a net sensitivity to the risk factor.

10Y

6000.01

-6000.00

It is not fully clear what is meant by "instrument", but we assume instruments are individual trades. Thus for example if we have two interest rate swaps whose contractual details are identical apart from their fixed coupon and notional, and where their deltas have opposite sign, we are not allowed to net their risks. This seems excessively conservative. It is also discontinuous, which is undesirable. This can be demonstrated by the example below on GIRR of two instruments, 5Y and 10Y on the USD curve, where a difference of 2 cents leads to a large change in the bucket charge.

10Y 00.01 00.00	CASE
00.01 00.00	ta
00.00	1 5999 .
	2 -6000.
	Bucket Ch
	21213.8

We think that a better way to allow for basis risk between interest rate curves in the same currency is to remove the disallowance factor and instead propose an improved version of the treatment described in an earlier version of the SBA, as follows.

Aggregation of weighted sensitivities at each vertex should be carried out separately for each currency. Weighted sensitivities to the same interest rate curve at the same vertex should be offset, to determine a weighted net sensitivity to that interest rate curve at the given vertex. The following formula should then be used to aggregate weighted net sensitivities across different interest rate curves at each vertex:

$$AWS_{i} = \sqrt{\sum_{k} WS_{k}^{2} + 0.9 \sum_{k} \sum_{l \neq k} WS_{l}WS_{k}}$$

where AWS_i is the aggregate weighted sensitivity to interest rate risk at vertex *i* and WS_k is the weighted net sensitivity to changes in interest rate curve k at vertex i. Note the correlation of 0.9 here is subject to calibration as part of the QIS.

Next define the signed aggregate weighted sensitivity at vertex *i* as:

$$SWS_i = \max\left(\min\left(\sum_k WS_k, AWS_i\right), -AWS_i\right)$$



The aggregate and signed weighted sensitivities at each vertex are then put into the following formula, which recognises hedging and diversification between different vertices in the same currency:

$$K_b = \sqrt{\sum_{i} AWS_i^2 + \sum_{i} \sum_{j \neq i} \rho_{ij} SWS_i SWS_j}$$

where ρ_{ij} is the correlation parameter between vertices *i* and *j*.

We have improved the previous regulatory methodology here in order to avoid discontinuities.

Note that although we have focused here on interest rates, similar arguments apply to other asset classes. We therefore propose the removal of the disallowance factor for all asset classes. Where genuine basis risk exists in other asset classes, it could be accounted for using a methodology like the one described here.

Please see Appendix III for an example of the capital impact on a balanced swap portfolio due to the application of the proposed disallowance factor.

Securitization

As a general comment, we would appreciate further clarity on why securitization exposures are dealt with independently of the banking book forthcoming securitization framework. We consider that securitization in the trading book will benefit from the work in progress on BB securitization framework with the added benefit of consistency and reduction of potential regulatory arbitrage.

What is more, securitization requires extra attention for the correlation trading portfolio as internal modelling will no longer be permissible. Therefore, we are of the opinion that more time should be devoted to designing the CTP capital charge method.

Further to the above, we have specific questions on the treatment of securitization exposures as set out below.



SECTION IV: LOGICAL INCOSISTENCIES

The purpose of this section is to identify fatal flaws or inconsistencies in the QIS instruction document.

A) PHASE 1

Aggregation of Delta Risk Capital Charges across buckets (§8)

The formula for combining the capital charges K_b for various buckets b is given (for example in paragraph 8(d)) as:

$$Delta Risk Charge = \sqrt{\sum_{b} K_{b}^{2} + \sum_{b} \sum_{b \neq c} \gamma_{bc} S_{b} S_{c}} + K_{residual}$$

This formula has the problem that the term inside the square root can go negative (as illustrated by the example below). To the effect that the industry will formulate a counterproposal to mitigate this issue, we will provide feedback to the BCBS within the next couple of weeks.

Example

Here is a concrete example showing how the Delta Risk Charge formula can encounter the square root of a negative number. Suppose we have two currencies, with 10 tenure points in each. Suppose we have $WS_1 = 100$ and $WS_2 = -100$ for all tenures, suppose $\rho_{ij} = 40\%$ for all tenures i and j, and suppose $\gamma_{12} = 50\%$. Then we get $K_1 = K_2 = 678$, $S_1 = 1000$, $S_2 = -1000$, and the term inside the square root is -80,000.

GIRR Risk Factors (§13)

It states that "For a given currency, only one risk-free yield curve should be used". It is not clear:

- i. How to determine the risk-free yield curve. For example, many margined derivatives are discounted using OIS curve, should OIS or LIBOR curve be the risk free curve for a given currency?
- ii. How to capture the risk of other curves in the same currency. For example, an inflation swap will require both the inflation curve and discount curve (e.g. LIBOR swap curve) of the same currency to price. If we designate the LIBOR swap curve as risk free, do we simply ignore the risk of the inflation curve?
- iii. How to capture the risk of a spread/basis curve in the same currency. For example, in a basis swap where the counterparties exchange a 3M LIBOR vs. 6M LIBOR cash flows, the risk factor will be (i) the 3M LIBOR/swap curve and (ii) the 6M-3M basis curve. If (i) is designated as the risk free curve, can we simply ignore the risk of the basis curve in (ii)?



Suggestion: Provide more clarification and perhaps examples when the same currency has multiple curve (or spread curve) to use in the price of an instrument.

Prescribed Risk weights GIRR (§30)

Specifically, with regard to the risk weight chart included in §30 on page 35 of the text, we question the approach of codified absolute stress levels as these would not seem to appropriately account for varying levels of the underlying risks. In some cases, a shock of 150 bps for one year will be wholly inappropriate; for example, if the underlying vertex being stressed is less than this value.

Suggestion: We believe that a more appropriate approach would be to either provide for a relative (percentage) stress to be used (symmetrically for both positive and negative stresses) or perhaps an absolute cap level of stress based on the starting value of the vertex. This would provide for an appropriately conservative stress of the vertex without leading to inappropriate outcomes.

First order sensitivity for options (§27)

The definition only allows "sticky delta". In practice, an option book may be risk-managed on a sticky strike or sticky delta basis, depending on the prevailing market condition. In addition, an IMA may choose between sticky strike and sticky delta as long as the corresponding vega risk capture is consistent with the delta/gamma risk capture. Forcing one approach may create operational obstacles for the QIS implementation and also lower data quality (e.g. if a firm use sticky strike, then the sticky delta measure is only produced for regulatory capital purpose and not being looked by Risk Managers and Business).

Suggestion: Could SBA allow the choice between sticky delta and sticky strike, even with different Risk Weight (RW)? Constrain can be put to prevent the same firm from "arbitraging" between the two approaches.

B) SUBSEQUENT PHASES

Curvature risk (§10)

- i. calculation of point-wise partial differences for large increments on curves could lead to incoherent market states in certain cases which could lead to undetermined or spurious results.
- ii. (§10 (a) #7): "defined as the first derivative with respect to the change in the option value from a one percentage point change in the underlying interest rate" *Suggestion:* "defined as the first derivative with respect to the change in the option value from a one percentage point change in the underlying equity price, commodity price or FX rate"
 NOTE: The correction is valid for bullet #7 but not for bullet #3 in §10 (a).

NOTE: The conection is valid for bunet # but not for bunet #3 in §10 (a).

iii. (§10 (d)): the formula seems to be using aggregated gammas directly rather than weighted gammas, which seems inconsistent with Delta

Definition of the Vega Risk (§11(a))



The definition seems only to allow a relative vega risk (i.e. PV change due to a relative change in implied vol). While this may provide convenience in designing the risk weight (since it brings all sensitivities to a relative basis), there are many areas where risk management practitioners work with absolute vega (i.e. PV change due to a 1% change in implied vol, e.g. from 20%/annum to 21%/annum). Enforcing a risk measure that is only used for regulatory capital calculation may create operational obstacles for the QIS implementation and also lower the data quality (e.g. this measure is only produced for regulatory capital purpose and not being looked by Risk Managers and Business)

Suggestion: Could SBA provide an option to allow the use of absolute vega, even with a set of different risk weight (e.g. by risk factor type)?

Vega Risk (§11 (b))

It should be stated explicitly that the net risk exposure is the variable called VR_k for risk factor k in §10 (c). Please confirm or advise otherwise.

CSR non-securitization (§22)

In some cases, a credit product is risk-modeled and risk-managed using a price based approach. For example, for highly distressed bonds, the market value and price volatility are used in Risk Management and VaR calculation.

Suggestion: Could SBA provide an option to allow the use of sensitivity to the price for CSR of such instruments?

CSR securitization (§23)

For non-correlation (CTP) securitization, the instruction says (on page 34) "...is deemed to be non-CTP, and then the CS01 should be calculated with respect to the instrument rather than the underlying of the instruments". It is not clear what a "CS01 with respect to the instrument" means – many of these instruments may purely trade on price (e.g. Cash CDO or US non-agency RMBS) and have no spread concept.

Suggestion: The definition need to be clarified, and ideally allow the use of sensitivity to the underlying price for CSR of such instruments.

CSR securitization (§39-§42)

The SBA CSR securitization for the correlation trading portfolio framework has two features for which we believe adjustments are needed:

- i. The applicable cross-bucket correlations [§42] are unworkable as the buckets definition for CTP (based on credit worthiness only) do not match the buckets definition for CSR non-securitisation (based on credit worthiness as well as sector).
- ii. The shifts are unduly high [§39], much higher than in the CSR non-securitisation framework, even though correlation risk has already been captured through a lower disallowance factor at step §8a.
- iii. The required stresses required pursuant to §38-41 are too severe even when conservatively compared to spread volatility experienced during the recent financial crisis



Suggestion: We are suggesting that the framework is adapted as per below with a view of increasing consistency with the CSR non-securitization and deriving a capital charge that is more commensurate with risks.

For CSR securitisation of the CTP, the same buckets as for CSR non-securitisation [§34] could be used; possibly retaining the same risk weights [§35] as well as the same intra-bucket correlations [§36] and inter-buckets correlations [§37].

Finally, we observe that given the size of the risk weights, it is likely that some exposures will be attributed weighted sensitivities above 1250% (i.e. above full deduction). We are proposing therefore to cap weighted sensitivities to 1250%.

Scope of the default risk (§64)

The text did not mention whether equity should be included in the default risk calculation, it only says *"The categories for this purpose are corporates, sovereigns, local governments/municipalities, and securitizations"*. Since the FRTB IMA requires equity to be included in IDR, it may be logical to include equity as well. Also §70 mentioned equity LGD is 100% - which implies equity should be included. *Suggestion:* Please clarify whether equity should be included (e.g. be considered as part of "corporate").

JTD definition (§66)

The JTD definition is provided via examples and do not cover all the Equity (if required) and Debt product types. This may cause confusion in the calculation of certain products.

Suggestion: Can a unified definition of JTD be provided (in addition to the examples)? For example, one option is to define

- JTD = V(0) V(Default, LGD)Where
- i. V(0) is the *MTM* of the instrument today (prior to default). For example, V(0) for a bond is the market value of the bond.
- ii. V(Default, LGD) is the MTM of the instrument immediately after default, with LGD defined by the rule (para. 70). For example, the V(Default, LGD) for a bond is *Notional* * *Recovery* = *Notional* * (1-LGD).
- iii. For equities (if required), default means Stock price = 0, for debt instruments, default means the underlying debt value = Notional x (1-LGD).
- iv. If JTD >0, it is a long exposure, otherwise it is a short exposure. (This also avoids the confusion in defining long vs. short using wording).
- v. For product with multiple underlying obligors (e.g. option on an CDS index), JTD should be calculated for each obligor by defaulting them one by one.

Default risk (§68)

Annex 3 page15 and page 46 have two different formulas for JTD - one floors it at 0 the other doesn't.

Default risk weight (§75)

There is no definition for equity default risk weight.





Suggestion: Provide a reasonable risk weight for equity default risk.

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Default Risk (§84)

i. the definition of 'Equity', 'Mezzanine' and 'Senior' provided is not exhaustive, so some positions will fall into none of the three available categories.

Suggestion: Possibly the intended wording is "Mezzanine: any tranche with detachment point >10% and attachment point < 30%" (page 48)

- ii. the maturity assumptions need to be specified for equity positions and for credit options positions.
- iii. the proposed new formulae are not consistent with the re-valued JTD measures some firms already use, in particular for existing risk capital calculations. Building the proposed new measure is not necessary given the existing JTD measures firms will already have, especially given the time constraints.
- iv. there is a statement "Adjustments will be made to avoid double counting due to the maturity adjustment since migration risk will be captured in the credit spread charge". Until such time as the adjustments are defined, the results of the securitisation valuation and default risk charges are potentially invalidated and unpredictable, in particular if the final adjustment requires firm specific metrics.

Default risk Securitizations

The risk weights are not yet finalized by the Basel Committee and may be subject to change. Any such change would invalidate the results of this Monitoring Exercise with respect to trading book securitisation positions.

Equity risk/ Credit spread risk

The sector buckets are insufficiently specified, for example they would require real estate or services sectors to be treated as residual and assigned the highest risk weight

Vega risk

Implied volatility by instrument and risk factor is ill-defined, e.g. basket option, forward-start option, American option.







APPENDIX I: List of Issues for Clarification by Proposed Phases

PHASE 1

- 1. How should volatility smile be handled in the standard method;
- 2. In a few places we need to determine a proportional contribution/attribution to ES given the complication of the ES measure now, is there any guidance as to how this needs to be performed (see, for example, p19 and p24);
- 3. Page 24 asks us to attribute positions by accounting level and by linearity. What measure do we need to perform the attribution NPV, notional or alternative;
- 4. The second bullet on page 7 of the instructions states that "the remaining information needed to calculate IMA, and SBA capital charges should be estimated individually by the participating banks." Is it right to assume that the same principal applies for the banking book calculations, please confirm or advise otherwise;
- 5. Page 27-Column K "Potential Future Exposure": the calculation of this quantity has not been defined and needs to be clarified. Should this be the PFE calculated for counterparty credit risk capital requirement purposes, and should it be based on the current method or the new SA-CCR approach: please confirm or advise otherwise;
- 6. Page 24-Column V Average Holding Period: This quantity can be calculated in many different ways, and, even if the rules could be specified, this quantity is very difficult to calculate. The actual calculation would differ depending on how it is calculated if:
 - i. A position is held, but the quantity changes day today, including going from long to short; and
 - ii. The essential risk remains, but the instrument changes, eg. when futures contracts roll or a swap is assigned to another counterparty.
- 7. For non-correlation (CTP) securitization, the instruction says (on page 34) "...is deemed to be non-CTP, and then the CS01 should be calculated with respect to the instrument rather than the underlying of the instruments". It is not clear what a "CS01 with respect to the instrument" means – many of these instruments purely trade on price (e.g. Cash CDO or US non-agency RMBS), there is no concept of the spread. Please provide clarification;
- 8. (Reporting template SBA) In relation to foreign exchange risk, let's assume that the reporting currency is GBP (e.g. for UK banks)
 - i. delta & curvatures: Shall we fill the row corresponding to the reporting currency?
 - ii. vega: For USDJPY vega sensitivities, how shall we split the vega sensitivities across USD and JPY?
- 9. Worksheet II) TB SBA All the formulas listed refer to CP2 Annex 1 that is a section in the old document describing the old SBA cash flow model, while Basel III present new SBA approach in Annex3. Clarifications are needed on which SBA approach to use.
- 10. Worksheet VI) TB IMA risk measure -calibration to a period of stress Would be possible to use Stress VaR periods?
- 11. Worksheet VI) TB IMA risk measure ES scaling under different liquidity horizon, can be used overlapping periods?



- 12. Worksheet TB IMA-general line 49: Isn't the "Options non-delta risk" under the standardized measurement double counting non-linear risk because curvature and vega risk are already captured under the SBA?
- 13. Best Effort Basis Regarding the completion of the template the statement at page 3 need to be clarified "However leaving a cell empty could trigger the exclusion from some or all the analysis if the respective item is required." this seems to imply that the best effort basis is accepted only on the completeness of the bank asset considered rather than on operational limitation linked to some of the calculations.

SUBSEQUENT PHASES

- 14. Please confirm (page 7) that the 'quantity' value in the 'Test Portfolios' (TPs) refers to the number of contracts, and not notional (or any other value);
- 15. Please confirm that calculations are required to be performed for each TP in its entirety, first as if the whole TP were classed as being in the trading book (e.g. cells C6 and D6 for equity standardized approach) and then recalculate again as if the whole TP is classed as being in the banking book (e.g. cell E6 for equity standardized approach), rather than arbitrarily attempting to split the trades in each portfolio between the trading book and banking book (e.g. TP trades lines 4 to 18 in the trading book cells C6 and D6, and TP trades lines 19 to 33 in the banking book cell E6);
- 16. Given that banking book positions are typically valued at cost, rather than daily MTM, there needs to be a confirmed principal for valuation of the TP trades for the banking book calculations. It would seem appropriate to use the market value as at the reporting date for the purpose of the QIS. Please can you confirm or advise otherwise.
- 17. Please confirm whether we should assume that all desks that banks intend to request internal model approval for will be included as a starting point (i.e. we are not required to apply the regulatory accreditation process including back-testing and P&L attribution in order to determine which desks would be eligible for inclusion;
- 18. Worksheet I) TB boundary TP Given the size of the test portfolio, too small compared to internal portfolios, what is the added value in running this test.
- 19. Worksheet V) TB IMA JiLP To assign the ES proportion can be used Contributory VaR concept?
- 20. It would be helpful to receive worked examples for the standard method, especially around new aspects like curvature and vega;
- 21. Can banks apply the standardized approach to credit per their current approach rather than developing the IDR at short notice?
- 22. In relation to the default risk for securitization exposures, we understand that an "obligor" is going to be a tranche group: equity, mezzanine and senior. Beyond the fact that this tranching is artificial and questionable we observe that it does not cover all potential situations. For instance, is a tranche with attachment point at 20% and detachment point at 40% be considered a mezzanine tranche, a senior tranche or shall it be split in two tranches: 20%-30% and 30%-40%? Also, we are seeking advice in how the very last paragraph (§85) hedging recognition across tranche groups of the same credit index could be put in practice.
- 23. Vega risk: Caplet/Swaption ATM vol has two axes (i) option expiry and (ii) underlying swap length. How shall we aggregate across two axes? In addition, what if we have smiles?
- 24. Worksheet TB SBA-current line 222: The value should be 75% instead of 15%.



- 25. Worksheet III) TB SBA Revised boundaries Vega risk According to Basel III Instruction -Section 11 a) is not clear if vega is looking only to shock the ATM point or the entire vol surface, so not clear the treatment for Skew if any.
- 26. Worksheet VI) TB IMA risk measure IDR:

Safe,

- Does IDR have to be calculated across "FRTB desks" with subsequent allocation of charge to i. desk, or has it to be calculated by desk on a standalone basis.
- ii. According to Consultative Paper §186(b), IDR has to be calculated weekly, but reporting template has daily fields for IDR. Please clarify.
- 27. Regarding the Default risk (securisation) method, paragraphs §80 and §81 mention that offset will be allowed across tranches with same attachment point, detachment point and same asset pool, even if maturities differs. Is it possible to split positions in order to offset them? (For example: For a long position on iTraxx 0-10, a short position on iTraxx 0-3 and a short position on iTraxx 3-10, is it possible to split the long position in two tranches 0-3 and 3-10 and then offset the short and long tranches?)
- 28. Can you confirm our understanding of the hedging constraints (paragraphs §84 and §85)?
 - For tranches of the same credit index, the tranches segmentation between equity, mezzanine i. and senior describes in the article §84 doesn't apply. For example, long exposure on iTraxx 0-3 can be hedged with positions on iTraxx 3-15 or 15-50.
 - For each credit index, only one JTDLong and one JTDShort is calculated: for the tranches, ii. the RW are calculated with the IRBA methodology and for index position, the RW is a weighting of Default RW of §75;
 - iii. §84 classification is only used to hedge residual positions for example two bespoke tranches with different asset pool.
- 29. §85 mentions that credit exposure on index tranche may be hedged by a position on the index viewed as a 0-100% tranche. However, what will be the correct treatment for FtD hedged with CDS single names ? (A hedge will be recognized or CDS have to be included in the default risk metric for non securitization products, whereas FtD will be part of the securitization metric?)





APPENDIX II: Expected Shortfall

Safe,

Efficient

Markets

There is a large number of permutations of cases specified in the draft instruction that the firm need to run for its entire portfolio for a number of days. Computing capacity would be a significant challenge.

- While these are useful cases for a thorough understanding of the incremental impact of each proposed change and the quality of the new measures, it would require significant increase in computing capacity that firms would need time to acquire/setup.
- We would recommend TBG to consider the cost and benefit of each additional runs (which include the number of cases as well as the number of days that the calculation needed to be done.
- Cases that might not be particularly crucial for calibration could be dropped. (e.g. new BB/TB boundary with the current metrics, with/without presumptive list).
- Instead of continuous daily run for 11 days for the ES measures, a weekly runs (for say 3-4 weeks would reduce interference to firms' day-to-day production activities and allow more time for quality checks and understanding of the new metrics.

Not taking into account the 2 revised boundary assumptions, the QIS requires 90 ES calculations per desk:

- i. 3 configurations : current/full, current/reduced, stress/reduced
- ii. risk factor subsets : EQ, IR, FX, CO, CR and ALL
- iii. 5 liquidity horizons

We acknowledge those calculations are key for the proper calibration of the revised framework. However, it is clear that the amount of calculations is huge and that it will be hard for many to perform all of them within the QIS timeframe.

In addition, we would like to draw the Committee attention on the following recommendations:

- i. We advocate the current stressed period used for the stressed VaR is a good proxy of the stressed period as defined under new rules. As a result we recommend banks should keep their current stress period for the sake of this exercise: recalibrating a stress period will bring no benefit at the cost of large amount of additional work.
- ii. Banks currently using 1-day returns rescaled to compute risk metrics at a 10-days liquidity horizons should be explicitly allowed to keep on relying on their 1-day returns for the sake of computing 10-days stress ES. Indeed, the benefits of using 10 days returns to capture convexity are not that obvious in particular when it comes to gamma negative exposures while the drawbacks in terms of disconnection with the 1 day P&L used for backtesting are far from being negligible.
- iii. Finally, full revaluation is not always an affordable option. In practise, PV grids or sensitivity based approach are extensively used across industry (e.g. by Monte Carlo banks). We urge the Committee to grant banks some flexibility on the methodology used to compute P&L impacts.



Appendix III: Example of Disallowance Factor Capital Impact in Balanced Swap Portfolio

To illustrate how the current proposal could affect a derivatives flow portfolio, we assume a large balanced swap book and attempt to calculate the capital charge under the Standardized approach. For this example, we will consider an average LCH SwapClear member portfolio that has 4.2 trillion USD equivalent in gross notional⁵. For simplicity we assume it is evenly distributed among 3 currencies: for example, USD, EUR and GBP. We further assume these are vanilla swaps (i.e. fixed versus float swaps without any tenor basis).

The tenor distribution is approximated by the current SwapClear notional outstanding tenor profile – the trades are mostly concentrated on the short end (57.4% of notional is within the 2yr bucket). Given tenor distribution, the PV01 for each currency can be roughly estimated as follows:

Term (yr)	Notl	Long PV01	Short PV01
1	401,800,000,000	19,692,191	(19,692,191)
2	401,800,000,000	38,994,451	(38,994,451)
3	161,000,000,000	23,206,159	(23,206,159)
5	161,000,000,000	37,921,187	(37,921,187)
10	170,800,000,000	76,630,529	(76,630,529)
15	35,000,000,000	22,452,378	(22,452,378)
20	35,000,000,000	28,559,488	(28,559,488)
30	33,600,000,000	37,522,088	(37,522,088)
Total	1,400,000,000,000	284,978,470	(284,978,470)

Table 1. Notional and PV01 per Currency

⁵ As of Jul 14, 2014, LCH SwapClear has 413 Trillion USD in notional outstanding and roughly 100 members.



The net PV01 for each currency after applying 0.95 disallowance factor would be

Table 2. Net P V01 by Currency						
Term (yr)	USD	EUR	GBP			
1	984,610	984,610	984,610			
2	1,949,723	1,949,723	1,949,723			
3	1,160,308	1,160,308	1,160,308			
5	1,896,059	1,896,059	1,896,059			
10	3,831,526	3,831,526	3,831,526			
15	1,122,619	1,122,619	1,122,619			
20	1,427,974	1,427,974	1,427,974			
30	1,876,104	1,876,104	1,876,104			
Total	14,248,923	14,248,923	14,248,923			

 Table 2. Net PV01 by Currency

The weighted sensitivity can be obtained by applying the regulatory risk weights

Term (yr)	USD	EUR	GBP
1	147,691,435	147,691,435	147,691,435
2	243,715,320	243,715,320	243,715,320
3	133,435,413	133,435,413	133,435,413
5	189,605,933	189,605,933	189,605,933
10	383,152,644	383,152,644	383,152,644
15	112,261,888	112,261,888	112,261,888
20	142,797,438	142,797,438	142,797,438
30	187,610,438	187,610,438	187,610,438

Table 3. Weighted Sensitivities by Currency

Finally Kb and Sb for each currency can be calculated using the prescribed correlation matrix

Table 4. Kb and Sb by Currency

	USD	EUR	GBP
Kb	1,392,796,898	1,392,796,898	1,392,796,898
Sb	1,540,270,509	1,540,270,509	1,540,270,509

Aggregating across different currencies, this will result in standardised approach capital of USD 3.6 Billion or 45 Billion in risk weighted assets (RWA). This would clearly be a significant increase to an institution's RWA, and note that this would be incremental to RWA required for any open market risk position.